

7/13/2018

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Initial Review Exposure Report

Chemical ID:P-18-0219 Reviewer:Motti/ENC

Exposure Scenario	Water						Land fill(non-sludge)	Stack		Fugitive	
Release Activity(ies)	Drinking Water		Fish Ingestion								
exposure Calculations	ADR mg/kg/day	LADD mg/kg/day	ADR mg/kg/day	LADD mg/kg/day	7Q10cc 1000 ug/l	PDM Exceeded # Days	LADD mg/kg/day	ADR mg/kg/day	LADD mg/kg/day	ADR mg/kg/day	LADD mg/kg/day
USE:Max ADR	7.61e-4	--	--	--	--	--	--	--	--	--	--
USE:Max LADD	--	2.68e-5	--	--	--	--	--	--	--	--	2.21e-4 (2.85e+0)

1. Exposure scenario titles consist of release activity followed by exposure calculation abbreviation.
2. Release activities are from engineering report's Manufacturing (Mfg), Processing (Proc) and Use release activity labels. Multiple release activities are combined in one exposure scenario if their releases occur at same location.
3. Exposure calculations are Acute Dose Rate (ADR), Lifetime Average Daily Dose (LADD), and Probabilistic Dilution Model (PDM). There may be one, two, or all three exposure calculations per exposure scenario. CC is the aquatic concentration of concern.
4. This column displays concentration values for the 7Q10 streamflow, which is defined as the average daily streamflow of the seven consecutive days of lowest flow within a ten year period.

Remarks:**MFG+PROC1 – All releases below threshold.****PROC2 – All releases below threshold.****USE – POTW (Ind.)****SCALING FACTORS FOR DRINKING WATER DOSE**

Age Group	Scaling Factor for ADR	Scaling Factor for ADD
Adults	1.0	1.0
Birth to 1	4.17	11.49
1-2	1.63	3.91
3-5	1.24	3.10
6-10	1.12	2.51
11-15	0.83	1.77
16-21	0.79	1.55
Pregnant	1.02	2.07
Lactating	1.31	3.84

Scaling factors for ADR are based on the ratio of 95th percentile drinking water intake/body weight for each age group compared to the 95th percentile drinking water intake/body weight ratio for adults from Table 3-1 of the 2011 edition of the Exposure Factors Handbook.

Scaling factors for age specific ADD are based on the ratio of the mean drinking water intake/body weight for each age group compared to the mean drinking water intake/body weight ratio for adults from Table 3-1 of the 2011 edition of the Exposure Factors Handbook.

Note, default LADD values are based on assumption that 33 years of lifetime exposure occurs in adulthood. If that exposure starts at birth, the LADD increases by 10% (1.1). However, central tendency duration (13 years) and consideration of age specific adjustment factors (ADAF) can be considered on an as needed basis (LADD Scaling factors range from 0.6 to 4.1).

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0219

Assessor: Mottl/ENC

ENVIRONMENTAL RELEASES

Scenario#:1

Number of Release Sites: 1

Release Activity: USE:Max ADR

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:	1	1	1	1
	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:	365	365	365	365
Per Site Release:	1	1	1	1
	(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0219

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 1

Number of Sites: 1

RELEASE ACTIVITY:USE:Max
ADR

SIC-CODE DESCRIPTION: [REDACTED]

SIC-CODE (S): [REDACTED]

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	1	1	1	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	0.93	2.16	3.42	4.04
ALL	10	39.60	13.29	7.76	7.57	6.74	20.09	34.41	35.27

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES

Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	3.69E-06	2.68E-05	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	2.84E-04	2.06E-03	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	8.17E-05	7.61E-04	mg/kg/day	0.00	0.00	mg/kg/day

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0219

Assessor: Mottl/ENC

ENVIRONMENTAL RELEASES

Scenario#:2

Number of Release Sites:

Release Activity: USE:Max LADD

Release Description:	WATER	LANDFILL Non-sludge/Sludge	STACK	FUGITIVE
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Total Releases:

	(kg/yr)	(kg/yr)	(kg/yr)	(kg/yr)

Non-sludge/Sludge

Release Days/yr:

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Per Site Release:

	(kg/site/day)	(kg/site/day)	(kg/site/day)	(kg/site/day)

Remarks:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0219

SIC-CODE BASED HUMAN AND AQUATIC EXPOSURES TO SURFACE WATER RELEASES

SCENARIO #: 2

Number of Sites: 1

RELEASE ACTIVITY:USE:Max
LADD

SIC-CODE DESCRIPTION: [REDACTED]

SIC-CODE (S): [REDACTED]

EXPOSED POPULATION: Adult

WWT REMOVAL (%)	RELEASE DAYS	PRETREATMENT RELEASE (kg/site/day)	POSTTREATMENT RELEASE (kg/site/day)	DWT (%)	BCF (L/kg)
90.00	1.	[REDACTED]	[REDACTED]	0.00	0.00

AQUATIC EXPOSURE ESTIMATES - SURFACE WATER

PLANT TYPE	% ILE FACILITY	STREAM FLOW (MLD)				STREAM CONC. (µg/l)			
		Harmonic Mean	30Q5	7Q10	1Q10	Harmonic Mean	30Q5	7Q10	1Q10
ALL	50	288.00	123.84	78.18	66.05	N/A	N/A	N/A	N/A
ALL	10	39.60	13.29	7.76	7.57	N/A	N/A	N/A	N/A

DRINKING WATER AND FISH INGESTION EXPOSURE ESTIMATES

Exposure Units	Drinking Water Results		Drinking Water Units	Fish Ingestion Results		Fish Ingestion Units
	50%	10%		50%	10%	
Cancer						
LADD _{pot}	3.69E-06	2.68E-05	mg/kg/day	0.00	0.00	mg/kg/day
LADC _{pot}	2.84E-04	2.06E-03	mg/L	0.00	0.00	mg/kg
Acute						
ADR _{pot}	N/A	N/A	mg/kg/day	N/A	N/A	mg/kg/day

SIC Code Comments:

INITIAL REVIEW EXPOSURE REPORT

Chemical ID: P-18-0219

INHALATION EXPOSURE ESTIMATES (POST-TREATMENT)
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SCENARIO #: 2

RELEASE ACTIVITY:USE:Max LADD

RELEASE DESCRIPTION:

METHOD OF CALCULATION: Screen3

EXPOSED POPULATION: Adult

Number of Sites:

Per Site Fugitive Release:

Fugitive Release Days per Year:

% Removal via Fugitive Release:

Total Fugitive Release:

Max Annual Average Air Concentration
(Fugitive):Max 24 Hour Average Air
Concentration(Fugitive):

Per Site Stack Release:

Stack Release Days per Year:

% Removal via Stack Release:

Total Stack Release:

Max Annual Average Air Concentration (Stack):

Max 24 Hour Average Air Concentration (Stack):

		kg/site/day
1.00		days
0.00		%
		kg/yr
2.85		µg/m ³
N/A		µg/m ³
		kg/site/day
		days
99.90		%
		kg/yr
0.00		µg/m ³
N/A		µg/m ³

Exposure Units	Results (Stack)	Results (Fugitive)	ASSUMPTIONS			
			ED (years)	AT (years)	BW (kg)	Inh. Rate (m³/hr)
Cancer						
LADD _{pot} (mg/kg/day)	N/A	2.21E-04	33.00	78.00	80.00	0.61
LADC _{pot} (mg/m³)	N/A	1.21E-03	33.00	78.00	NA	NA
Acute						
ADR _{pot} (mg/kg/day)	N/A	N/A	NA	1 day	80.00	0.61

Inhalation Comments:

Stack Parameter Data

Stack Height	10.00
Inside Stack Diameter:	0.10
Stack Gas Exit Velocity:	0.10
Stack Gas Temperature:	293.00

Fugitive Parameter Data

Release Height:	3.00	m
Length of Release Opening:	10.00	m
Width of Release Opening:	10.00	m

Meteorological and Terrain Information:

Surrounding Land Use:



Terrain Height: 0.00 m

Distance to Residence of Interest: 100.00 m

Meteorological Class: Full

Stability Class: NA

Wind Speed: NA

Downwash Information:

Facility Length: NA m

Facility Width: NA m

Facility Height: NA m